

REMARKS

By the present amendment, independent claim 1 has been amended to further clarify the concepts of the present invention. In particular, independent claim 1 has been amended to incorporate the subject matter of dependent claims 4, 9-13 and 16 therein. Accordingly, dependent claims 4, 9-13 and 16 have been canceled. Entry of the above amendments is respectfully requested.

In the Office Action, claims 1, 4, 9-13, 16 and 18-21 were rejected under 35 USC § 103(a) as being unpatentable over the previously cited patents to Duggan, Atwood et al, Gandon et al, Baczek et al and Cain. In so doing, it was alleged that the cited Duggan patent teaches the process as claimed in claim 1, with the exception of (a) specifics as steps (1) and (2) in terms of the chlorine-aided leaching step and the copper ion reduction step; and (b) the use of step (5) in terms of iron electrowinning. The Atwood et al patent was then alleged to teach the specifics as to (a) except of leaching by continuously blowing chlorine gas into the slurry, and the Cain patent was alleged to teach the use of (b) in the refining of raw copper.

The patent to Gandon et al was alleged to supply the deficiencies of the Atwood et al patent with respect to continuously blowing of chlorine gas. The patent to Baczek et al allegedly disclosed that the size of milled chalcopyrite particles affects the efficiency of a copper leaching process. It was further asserted that the recited temperature and the recited oxidation reduction potential would be apparent to those skilled in the art. Reconsideration of this rejection in view of the above claim amendments and the following comments is respectfully requested.

As mentioned above, the subject matter of dependent claims 4, 9-13 and 16 have been incorporated into independent claim 1 so as to further distinguish the subject invention over the teachings of the cited patents. In particular, the independent claim now

recites further specifics as to the chlorine-aided leaching step (1), the copper ion reduction step (2), the solvent extraction step (3) and the copper electrowinning step (4) as well as to the return or recycle of certain process streams.

It is submitted that the process for refining raw copper material containing copper sulfide mineral as defined by independent claim 1 is not taught or suggested by the cited patents, whether taken singly or in combination. Specifically, it is submitted that (1) the patents do not teach or suggest, among other things, (1) the recited details of the recycling steps and (2) one of ordinary skill in the art would not be led to combine the teachings of the cited patents in the manner suggested in the rejection.

As to (1) above, it was asserted in the Action that, as to feeding the spent catholyte from the iron electrowinning cell to the anode chamber of the copper electrowinning cell, such would have been obvious to one of ordinary skill in the art. Additionally, it was asserted that recycling spent catholyte and spent anolyte would also have been obvious to one of ordinary skill.

As to these two assertions, it is submitted that the first is completely unsupported and the second is only supported by a generalization that it is an well known chemical engineering expedient to recycle process streams. As to the latter, while the generalization in terms of the known use of recycling in the process chemical industries, it is submitted that such an assertion does not address the specifics as recited in the claims. In particular, the claim recites where the streams are to be recycled and such is not be readily apparent to those of skill in the art. Among other things, unexpectedly improved overall balance of liquids used in the subject processes only can be achieved when the presently claimed recycle streams are utilized in combination. In this regard, specific attention is directed to the disclosure of the subject application from the last line of page 31 to line 2 of page 32.

As to argument (2), it again is submitted that one of ordinary skill the art would not be led to combine the teachings of five separate patents to achieve the presently claimed invention. In particular, it must be emphasized in support of the patentability of the subject invention over the teachings of the cited patents is that none of these patents provides a suggestion to motivate one of ordinary skill in the art to combine their teachings in the manner proposed in the rejection. It is well established principle of U.S. patent practice that the prior art must contain some suggestion for combination since without such, any combination is pure speculation on the part of the examiner and is based on a prohibited hindsight reconstruction from applicants' own disclosure.

For the reasons stated above, withdrawal of the rejections under 35 U.S.C. § 103(a) and allowance of claims 1 and 18-21 as amended over the cited patents are respectfully requested.

Dependent claim 22 was rejected under 35 USC 103(a) as being obvious over the same patents to Duggan, Atwood et al, Baczek et al, Gandon et al and Cain as applied to the claims mentioned above further in view of the patent to Subramanian et al. In making this rejection, it was asserted that the Subramanian et al patent teaches the use of a second electrorefining step in producing silver slime. It was concluded that it would be obvious to one of ordinary skill to utilize the additional teaching in conjunction with the other teachings. Reconsideration of this rejection in view of the above claim amendments and the following comments is respectfully requested.

The above remarks relative to the teaching deficiencies of the patents to Duggan, Atwood et al, Cain, Baczek et al and Gandon et al are reiterated with regard to this rejection. It is submitted that the patent to Subramanian et al does not supply these teaching deficiencies with respect to the subject matter of independent claim 1 and the claims dependent thereon. Thus, it is submitted that the same considerations as were set

Serial Number:10/706,276  
OA dated September 20, 2007  
Amdt. dated December 20, 2007

forth above regarding each of the primary patents would be applicable to this rejection as well.

For the reasons stated above, withdrawal of the rejections under 35 U.S.C. § 103(a) and allowance of dependent claim 22 over the cited patents are respectfully requested.

In view of the foregoing, it is submitted that the subject application is now in condition for allowance and early notice to that effect is earnestly solicited.

In the event this paper is not timely filed, the undersigned hereby petitions for an appropriate extension of time. The fee for this extension may be charged to Deposit Account No. 01-2340, along with any other additional fees which may be required with respect to this paper.

Respectfully submitted,

KRATZ, QUINTOS & HANSON, LLP



Donald W. Hanson  
Attorney for Applicants  
Reg. No. 27,133

Atty. Docket No. 031267  
Suite 400, 1420 K Street, N.W.  
Washington, D.C. 20005  
(202) 659-2930  
DWH/rab



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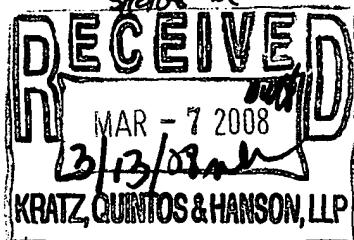
## UNITED STATES PATENT AND TRADEMARK OFFICE

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APR 03 2008  
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Alexandria, Virginia 22313-1450  
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,276	11/13/2003	Koji Ando	031267	5648

23850 7590 03/06/2008  
KRATZ, QUINTOS & HANSON, LLP  
1420 K Street, N.W.  
Suite 400  
WASHINGTON, DC 20005



EXAMINER	
WILKINS III, HARRY D	
ART UNIT	PAPER NUMBER
1795	
MAIL DATE	DELIVERY MODE
03/06/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

I am response  
Due: APRIL 6, 2008  
NOTICE OF NON-COMPLIANT AMENDMENT

DOCKETED See Wt  
DATE 3/8/08

**UNITED STATES DEPARTMENT OF COMMERCE****U.S. Patent and Trademark Office**

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APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10706276	11/13/03	ANDO ET AL.	031267

**EXAMINER**

KRATZ, QUINTOS & HANSON, LLP  
1420 K Street, N.W.  
Suite 400  
WASHINGTON, DC 20005

Harry D. Wilkins, III

ART UNIT	PAPER
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1795 20080226

**DATE MAILED:**

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner for Patents**

1. The reply filed on 20 December 2007 is not fully responsive to the prior Office Action because of the following omission(s) or matter(s): Applicant appears to have based the amendments to the claims on the version of claims filed 22 February 2007. However, this was not the pending version of claims in the application. The last version of the claims were filed on 13 July 2007, which were originally denied entry, but were entered by the Request for Continued Examination filed on 13 August 2007. Applicant is required to resubmit a claim set which shows changes from the 13 July 2007 version of the claims. Of note is that claims 5-8, 14, 15 and 17 were cancelled in the 13 July 2007 amendment, but Applicant has represented these claims in the amendment filed 20 December 2007. See 37 CFR 1.111. Since the above-mentioned reply appears to be *bona fide*, applicant is given **ONE (1) MONTH or THIRTY (30) DAYS** from the mailing date of this notice, whichever is longer, within which to supply the omission or correction in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

/Harry D Wilkins, III/  
Primary Examiner, Art Unit 1795

<b><i>Notice of Non-Compliant Amendment (37 CFR 1.121)</i></b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/706,276	ANDO ET AL.	
	Examiner	Art Unit	
	Harry D. Wilkins, III	1795	

APR 03 2008  
U.S. Patent & Trademark Office

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on 20 December 2007 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

**THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:**

- 1. Amendments to the specification:
  - A. Amended paragraph(s) do not include markings.
  - B. New paragraph(s) should not be underlined.
  - C. Other \_\_\_\_\_
- 2. Abstract:
  - A. Not presented on a separate sheet. 37 CFR 1.72.
  - B. Other \_\_\_\_\_
- 3. Amendments to the drawings:
  - A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - C. Other \_\_\_\_\_
- 4. Amendments to the claims:
  - A. A complete listing of all of the claims is not present.
  - B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - D. The claims of this amendment paper have not been presented in ascending numerical order.
  - E. Other: The starting claims to which amendments are made in the amendment are not the prior version of the claims. The prior version of the claims was the version of claims filed on 13 July 2007. The copy of claims filed 20 December 2007 represents claims 5-8 which were previously cancelled.
- 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):  
\_\_\_\_\_

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

**TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:**

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.
2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

**Extensions of time** are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a Quayle action.

**Failure to timely respond** to this notice will result in:

**Abandonment** of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a Quayle action; or

**Non-entry** of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable

Telephone No. \_\_\_\_\_

Part of Paper No. 20080226

